

**Amendments to the Claims:**

1.     **(Original)** A home terminal apparatus for sending/receiving packet data to and from a router that is connected to an external network to which a server apparatus is connected, the home terminal apparatus being connected to the router via a home network, comprising:

a packet generation unit operable to generate packet data to be sent to the server apparatus;

a protocol determination unit operable to determine a communication protocol used between the home terminal apparatus and the server apparatus; and

a communication unit operable to send/receive the packet data to and from the server apparatus via the router,

wherein the protocol determination unit determines that the home terminal apparatus should communicate with the server apparatus using (i) a first communication protocol when the communication unit sends address notification packet data generated by the packet generation unit to the server apparatus periodically and repeatedly at a predetermined sending interval via the router, and (ii) a second communication protocol when the communication unit sends/receives control information to and from the server apparatus.

2.     **(Original)** The home terminal apparatus according to Claim 1,

wherein the protocol determination unit determines that the packet generation unit should generate a connection request packet for making a connection request to establish a connection to the server apparatus using the second communication protocol, when the communication unit receives, from the server apparatus, a notification packet indicating an occurrence of a control request to control the home terminal apparatus, and

the communication unit receives, from the server apparatus, control packet data including the control request, after the connection is established to the server apparatus using the second communication protocol.

3. **(Currently amended)** The home terminal apparatus according to ~~any one of Claims 1 and 2~~ Claim 1,

wherein the first communication protocol is UDP, and  
the second communication protocol is TCP.

4. **(Original)** The home terminal apparatus according to Claim 2, further comprising a management unit operable to manage a certificate to verify validity of the home terminal apparatus,

wherein the communication unit sends, to the server apparatus, said certificate managed by the management unit, after receiving the notification packet.

5. **(Original)** The home terminal apparatus according to Claim 2,

wherein the packet generation unit generates an inquiry packet for inquiring the server apparatus about the control request, when the connection is established to the server apparatus using the second communication protocol, and

the communication unit sends said inquiry packet to the server apparatus via the router.

6. **(Original)** The home terminal apparatus according to Claim 1, further comprising an authentication unit operable to perform authentication on the server apparatus as a communication partner,

wherein the authentication unit performs the authentication on the server apparatus using a server certificate to verify validity of the server apparatus as a communication partner.

7. **(Original)** The home terminal apparatus according to Claim 6,

wherein the authentication unit performs the authentication on the validity of the server apparatus as a communication partner using one of the following information included in the

packet data received by the communication unit: an IP address of the server apparatus; and a terminal ID unique to the home terminal apparatus.

8.     **(Original)** The home terminal apparatus according to Claim 6,  
          wherein the authentication unit destroys the packet data, when the communication unit receives said packet data within a predetermined interval.
9.     **(Original)** The home terminal apparatus according to Claim 1, further comprising an encryption unit operable to encrypt a channel between the home terminal apparatus and the server apparatus that uses the second communication protocol, when the control information is sent/received to and from the server apparatus.
10.    **(Original)** The home terminal apparatus according to Claim 9,  
          wherein the encryption unit uses SSL to encrypt the channel.
11.    **(Original)** The home terminal apparatus according to Claim 1, further comprising a control unit operable to control the home terminal apparatus according to the control information.
12.    **(Original)** The home terminal apparatus according to Claim 11,  
          wherein a plurality of terminal apparatuses are connected to the home terminal apparatus via the home network,  
          each of the terminal apparatuses includes an apparatus control unit operable to control said each of the terminal apparatuses itself,  
          the communication unit sends the control information to each of the terminal apparatuses,  
          and  
          the apparatus control unit controls said each of the terminal apparatuses according to the control information.

13. **(Currently amended)** The home terminal apparatus according to ~~any one of Claims 1 and 2~~ Claim 1,

wherein the server apparatus includes:

a second communication unit operable to send/receive packet data; and

a second packet generation unit operable to generate packet data to be sent to the home terminal apparatus,

wherein the second packet generation unit generates the notification packet indicating the occurrence of the control request to control the home terminal apparatus, when said control request occurred in the server apparatus, and

the second communication unit sends said notification packet to the home terminal apparatus via the router.

14. **(Original)** The home terminal apparatus according to Claim 13,

wherein a mobile terminal device is further connected to the external network, the mobile terminal device being capable of sending the control request to control the specific home terminal apparatus, and

the second packet generation unit generates the notification packet, when the second communication unit receives the control request from the mobile terminal device.

15. **(Original)** The home terminal apparatus according to Claim 13,

wherein the second packet generation unit generates the control packet data including the control request, and

the second communication unit sends said control packet data to the home terminal apparatus via the router, after the connection is established to the home terminal apparatus using the second communication protocol.

16. **(Original)** The home terminal apparatus according to Claim 15,

wherein the second communication unit sends the control packet data to the home terminal apparatus via the router, only when the control request occurred in the server apparatus.

17. **(Original)** The home terminal apparatus according to Claim 15,

wherein the second communication unit sends the control packet data to the home terminal apparatus via the router, only when receiving, from the home terminal apparatus, an inquiry packet for inquiring about the control request.

18. **(Original)** The home terminal apparatus according to Claim 13,

wherein the server apparatus further includes:

a terminal information storage unit operable to store the following information included in the packet data received by the second communication unit as a set of terminal information: a terminal ID of the home terminal apparatus; a global address of the router which is a sender's address; and a global port number of the router which is a sender's port number; and

an extraction unit operable to extract, from the terminal information storage unit, the global address and the global port number which correspond to the terminal ID, when the control request to control the home terminal apparatus with said terminal ID occurred in the server apparatus,

wherein the second packet generation unit generates the notification packet that includes notification information indicating the occurrence of the control request as well as including, respectively as a destination address and a destination port number, the global address and the global port number extracted by the extraction unit.

19. **(Original)** The home terminal apparatus according to Claim 13,

wherein the server apparatus further includes a second management unit operable to manage a server certificate to verify validity of the server apparatus,

wherein the second communication unit sends, to the home terminal apparatus, said server certificate managed by the second management unit, after receiving, from the home terminal apparatus, the connection request packet for requesting a connection to the server apparatus using the second communication protocol.

20. **(Original)** The home terminal apparatus according to Claim 13,  
wherein the server apparatus further includes a second authentication unit operable to perform authentication on the home terminal apparatus as a communication partner,  
wherein the second authentication unit performs the authentication on the home terminal apparatus using a certificate to verify validity of the home terminal apparatus as a communication partner.
21. **(Original)** The home terminal apparatus according to Claim 13,  
wherein the server apparatus further includes a second encryption unit operable to encrypt a channel between the home terminal apparatus and the server apparatus that uses the second communication protocol, when the control information is sent/received to and from the home terminal apparatus.
22. **(Original)** The home terminal apparatus according to Claim 13,  
wherein an application server is further connected to the external network,  
the second packet generation unit in the server apparatus generates the notification packet indicating the occurrence of the control request, the notification packet including an application server identifier for identifying the application server,  
the second communication unit sends said notification packet to the home terminal apparatus via the router,  
the home terminal apparatus further comprises:

a storage unit operable to store application server identifier/address information made up of at least the application server identifier and an address of the application server; and

an extraction unit operable to extract, from the application server identifier/address information stored by the storage unit, the address of the application server that corresponds to the application server identifier included in the notification packet, when the communication unit receives said notification packet from the router,

wherein the packet generation unit generates the connection request packet that describes the address of the application server as a destination address.

23. **(Original)** The home terminal apparatus according to Claim 22,

wherein the storage unit additionally stores a port number of the application server to the application server identifier/address information,

the extraction unit extracts, from the application server identifier/address information stored by the storage unit, the address of the application server and the port number of the application server that correspond to the application server identifier included in the notification packet, when the communication unit receives said notification packet from the router,

the packet generation unit generates the connection request packet that describes the address of the application server as a destination address and the port number of the application server as a destination port number, and

the communication unit sends said connection request packet to the server apparatus via the router.

24. **(Original)** The home terminal apparatus according to Claim 22,

wherein the storage unit further stores the application server identifier/address information that includes the application server identifier and a URL of the application server,

the extraction unit extracts, from the application server identifier/address information stored by the storage unit, the URL of the application server that corresponds to the application

server identifier included in the notification packet, when the communication unit receives said notification packet from the router, and

the communication unit sends the connection request packet to the URL.

25. The home terminal apparatus according to Claim 24,  
wherein an address list notification server is further connected to the external network,  
the address list notification server includes a sending unit operable to send, to the home terminal apparatus, an address list notification packet including another application server identifier/address information via the router, and

the home terminal apparatus further comprises an update unit operable to update the application server identifier/address information stored by the storage unit, on the basis of said another application server identifier/address information included in the received address list notification packet from the router.

26. **(Original)** The home terminal apparatus according to Claim 1,  
wherein the router is directly connected to the external network, not via an internet service provider.

27. **(Original)** A communication system comprising:  
a server apparatus connected to an external network;  
a home terminal apparatus connected to a home network; and  
a router which connects the external network and the home network,  
wherein the home terminal apparatus includes:  
a packet generation unit operable to generate packet data to be sent to the server apparatus;  
a protocol determination unit operable to determine a communication protocol used between the home terminal apparatus and the server apparatus; and



a communication unit operable to send/receive the packet data to and from the server apparatus via the router, and

the server apparatus includes:

a second communication unit operable to send/receive packet data; and

a second packet generation unit operable to generate packet data to be sent to the home terminal apparatus, and

the protocol determination unit determines that the home terminal apparatus should communicate with the server apparatus using (i) a first communication protocol when the communication unit sends address notification packet data generated by the packet generation unit to the server apparatus periodically and repeatedly at a predetermined sending interval via the router, and (ii) a second communication protocol when the communication unit sends/receives control information to and from the server apparatus.

28. **(Original)** The communication system according to Claim 27,

wherein the second packet generation unit in the server apparatus generates a notification packet indicating an occurrence of a control request to control the home terminal apparatus, when said control request occurred in the server apparatus,

the second communication unit sends said notification packet to the home terminal apparatus via the router,

the protocol determination unit determines that the packet generation unit should generate a connection request packet for making a connection request to establish a connection to the server apparatus using the second protocol, when the communication unit in the home terminal apparatus receives the notification packet from the server apparatus, and

the communication unit receives, from the server apparatus, control packet data including the control request, after the connection is established to the server apparatus using the second communication protocol.

29. **(Original)** A communication method in which an external network to which a server apparatus is connected and a home network to which a home terminal apparatus is connected are connected via a router, the communication method comprising steps A executed by the home terminal apparatus and steps B executed by the server apparatus,

wherein the steps A include:

a packet generation step of generating packet data to be sent to the server apparatus;

a protocol determination step of determining a communication protocol used between the home terminal apparatus and the server apparatus; and

a communication step of sending/receiving the packet data to and from the server apparatus via the router,

the steps B include:

a second communication step of sending/receiving packet data; and

a second packet generation step of generating packet data to be sent to the home terminal apparatus, and

in the protocol determination step, it is determined that the home terminal apparatus should communicate with the server apparatus using (i) a first communication protocol when address notification packet data generated in the packet generation step is sent to the server apparatus periodically and repeatedly at a predetermined sending interval via the router in the communication step, and (ii) a second communication protocol when control information is sent/received to and from the server apparatus in the communication step.

30. **(Currently amended)** A program for a communication method in which an external network to which a server apparatus is connected and a home network to which a home terminal apparatus is connected are connected via a router, the program causing a computer to function as the units in the home terminal apparatus according to ~~any one of Claims 1 to 21~~ Claim 1.

31. **(Currently amended)** A program for a communication method in which an external network to which a server apparatus is connected and a home network to which a home terminal apparatus is connected are connected via a router, the program causing a computer to function as the units in the server apparatus according to ~~any one of Claims 1 ~ 21~~ Claim 1.

32. **(New)** The home terminal apparatus according to Claim 2,  
wherein the first communication protocol is UDP, and  
the second communication protocol is TCP.

33. **(New)** The home terminal apparatus according to Claim 2,  
wherein the server apparatus includes:  
a second communication unit operable to send/receive packet data; and  
a second packet generation unit operable to generate packet data to be sent to the home terminal apparatus,  
wherein the second packet generation unit generates the notification packet indicating the occurrence of the control request to control the home terminal apparatus, when said control request occurred in the server apparatus, and  
the second communication unit sends said notification packet to the home terminal apparatus via the router.

34. **(New)** A program for a communication method in which an external network to which a server apparatus is connected and a home network to which a home terminal apparatus is connected are connected via a router, the program causing a computer to function as the units in the home terminal apparatus according to Claim 13.

35. **(New)** A program for a communication method in which an external network to which a server apparatus is connected and a home network to which a home terminal apparatus is

connected are connected via a router, the program causing a computer to function as the units in the home terminal apparatus according to Claim 2.

36. (New) A program for a communication method in which an external network to which a server apparatus is connected and a home network to which a home terminal apparatus is connected are connected via a router, the program causing a computer to function as the units in the server apparatus according to Claim 13.

36. (New) A program for a communication method in which an external network to which a server apparatus is connected and a home network to which a home terminal apparatus is connected are connected via a router, the program causing a computer to function as the units in the server apparatus according to Claim 2.